

Marine winterization in Southport, NC area.

The numerous publications which describe marine winterization are typically focused on those northern-based boaters whose home ports are more prone to marine systems freeze damage than that experienced by most members of our squadron. I came from Rhode Island where below-zero temperatures and associated risks were common. However, we all witnessed last year's exceptional multi-day below-freeze low temperatures during which we saw lows in the teens for at least a few days. Historically, St James Marina froze over ... making for numerous 'photo ops' as well as higher potential for marine gear freeze damage than normal. In light of this threat, I thought I might offer a few techniques born of experience in northern climes. I wish to emphasize that this is not by any means comprehensive and all should review standard publications on the subject, as well as the specific manufacturer's publications pertinent to EVERY system on your boat in order to acquaint yourselves with situations that I may not address or address only in general here.

Our systems might be broken down into the following categories
(not comprehensive):

- A. Gasoline outboards
- B. Electric outboards
- C. Inboard/outboard drives
- D. Inboard engines and generators
- E. Onboard systems (this section is where you might find a couple of unique tips)
- F. General mildew removal and preventive maintenance.

Winterization

- A. **Gasoline outboards:** if you intend to store your outboard for a time, it would be wise to follow storage procedures as outlined in your manufacturer's publication. In general, you should operate the outboard (with normal post op freshwater flush) with the fuel line disconnected so most residual fuel will be removed from pre-combustion cavities, jets and injectors; let the engine "die" from fuel starvation; try to use non-ethanol based fuel. Treat fuel in your tank. Treat all steering systems, hydraulic systems and engine clamping and tilt systems with an appropriate lubricant. Take a look at electrical connections: clean and use dielectric grease. Leave your outboard stored in the down-tilt position so water will drain effectively. Isolate your battery and/or remove. Open the upper vent on your lower unit and then fill the lower unit with fresh lubricant pushing any old lubricant and water out through the vent. Close the vent then the fill plug. Do not change the water pump impeller now ... that is a spring task.
- B. **Electric outboards** need lubrication on clamps and rotating parts. This is primarily to prevent salt corrosion from "freezing" parts. Remove battery component to warm storage and trickle charge.

- C. **I/O Inboard/Outboard systems:** All I/O systems require seasonal maintenance to ensure long life. Refer to your specific manufacturers operator guide. The engines are typically gasoline but the items I will address here are general. I usually did the same “fuel starvation” storage technique as I described above in “Gasoline Outboards” as a first step after changing engine oil and filter. Some mariners use marine fogger to coat the inside of heat exchangers to limit rust and prolong life. Always best to change engine oil and pump fresh lubricant into the lower unit. Once again, replace your water pump impeller in the spring (or post storage) ... not pre-storage.
- D. **Inboard engines:** Change coolants; be sure to use the type specified for your type marine engine; while doing so, check for soft or cracked hoses and replace them now while the cooling system is empty. Check to see if any hose has been rubbing on something and correct the problem. Change engine oil and filters. Check all zincs (engine, generator, transmission, exchangers). Now is a good time to see if you have adequate spares and the replacement serpentine belts necessary in the spring. If you have not disassembled your heat exchangers and rodded them out, now might be a good time. Modern inboard gasoline engines in storage for a few months typically do not require the starvation technique; older carburetor equipped engines benefit from this treatment. Diesels certainly not. All this applies equally to your generators.
- E. **Onboard Systems.** Fortunately, we here in the Southport/St James area do not have to go to the extreme winterization steps as our northern mariners do. However, you should ***carefully analyze where fresh water resides in your boat*** and how those locations might be subject to potential damage caused by expansion as the water freezes inside various cavities. Protect these systems using ONLY nontoxic marine propylene glycol. Since you are typically adding this to fresh water and thus it will be diluted, it is best to use anti-freeze rated to minus 100 degree F.
- I take the precaution of placing an **oil-filled radiator type space heater** below deck in my bilge between my two engines. Available at Wal-Mart. This type heater is best because it creates a continuous “area” heat that is quite efficiently produced (as compared to ceramic or other “point” heat stoves which direct higher heat in small quantities. Heat rises; placing the heater low in the bilge allows heat to trickle upward following the deck “ceiling” and permit heat to get to fresh water lines in the hull.
 - **Head and holding tank:** have the holding tank pumped out. Pour antifreeze in the head and flush. Pour antifreeze in the head bowl. Do these steps before depressurizing your fresh water system in the next step.

- **Fresh water wash down faucet.** This is probably ***THE item*** most susceptible to freeze damage. I take the following steps: (a) shut off water pressure pump (b) disconnect any hose from the wash down spigot (c) open the spigot (d) cover the spigot with an insulation cover (available from Lowes/Home Depot). (e) wrap any exposed supply line with pipe insulation.
- Pour a small amount of **antifreeze down each sink** to clear fresh water from sink traps.
- Check the pressure on your **hydraulic steering systems**. Air pressure may fall below specified levels in cold weather. Do this especially if you are not winterizing and plan to use your boat all winter.
- **Marine gear** (aka transmission). Drain a small amount of lubricant from your marine gear sump. Any water condensate will be at the bottom and will drain first. Replenish transmission lubricant to proper level.
- **Hot water heater**. If you use a space heater in the bilge as I do, and your water heater and associated lines will be protected by that heat source, no additional prep is necessary. Otherwise, I suggest disconnecting and bypassing the heater and drain it. If you think this step is necessary, you should plan to do a much more extensive winterization of your freshwater systems than I am outlining here.
- End of season is a good time to lubricate **all through-hull strainer** caps and clean the strainers. O-rings should receive silicon lube and bronze threaded caps treated with anti-freeze compound. If you plan to leave your onboard cabin heater running all winter, remember to go and check the through-hull strainer regularly.

F. General mildew removal and other preventive maintenance

- It is a good idea to place desiccant bags in storage areas to deter mold & mildew.
- To make your own inexpensive but very effective mold/mildew killer/remover mix 1 gallon of white vinegar (used for household cleaning) with one quart of hydrogen peroxide. Spray on ... leave a few minutes ... lightly scrub ... wash off.
- Take a look at your deck hardware and see if any item needs replacement or tightening. Use appropriate lubricant and or finish protection.
- If you have not washed your anchor rod in fresh water, this is a good time to do so. Check all chain fittings for deterioration and adequacy of safety wire locks.
- All those nice enclosures and other items with zippers and snaps should be cleaned of all salt traces and lubricated with zipper wax.

Though the above items are not all-inclusive, I hope an item or two helps you to think about your own situation. Every boat is different. If I can be of help, please feel free to contact me at AlRose509@gmail.com See you on the water!

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M/V Bandit